# ◆ 32 channel Digital output /24VDC/PNP(DF20-M-32DO-P)

➢ It transmits binary control signals from the automation device to the connected actuators (e.g., magnetic valves)

➢ 32-channel digital output, active PNP low level.

➢ Each output module has a noise-rejection filter.

➢ Each output module is equipped with an LED indicator.

➢ Field and system levels are Photoelectric isolated.

➢ Protection level IP20.
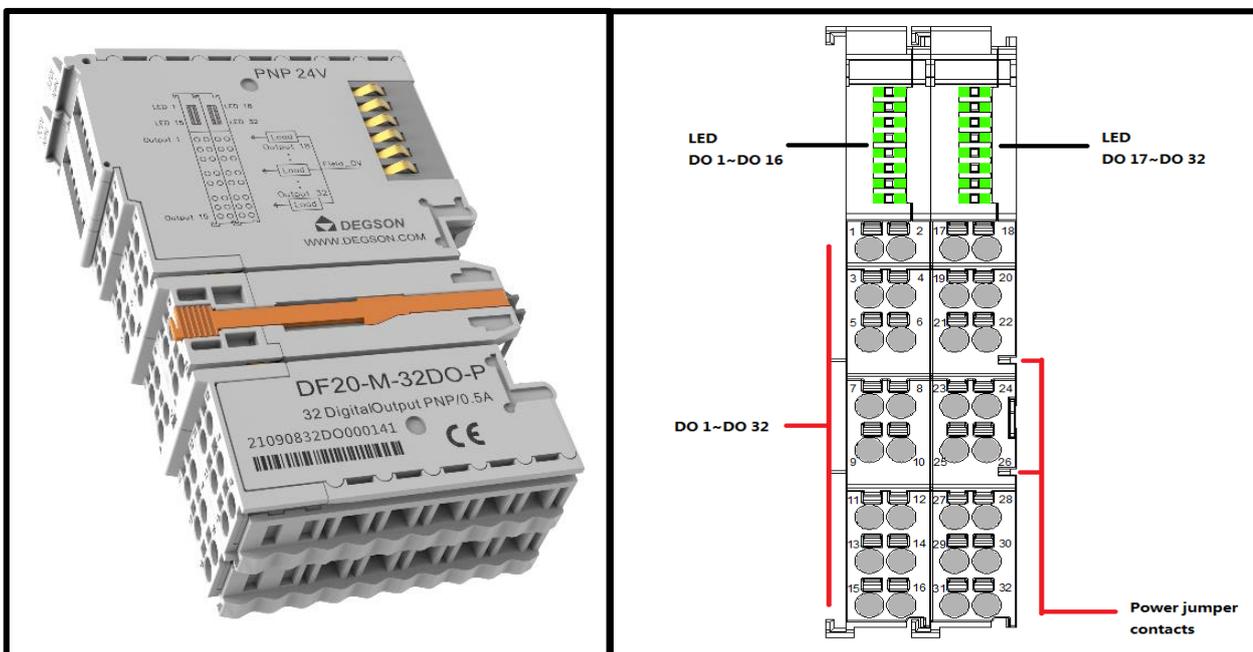
1.Specification

| Technical data	
Number of digital outputs	32
Number of Channels	32
Signal type	Voltage
Signal type (voltage)	24V DC PNP
Connection type	1-line
Output characteristic	Low-side switching
Switching Frequency (resistance/lamp load)	<1000Hz
Switching Frequency (Inductive load)	<0.2Hz
Response Time of the Protection Circuit	<100us
Output current per channel(MAX)	500 mA
Load type	Inductance, resistance, lamp
"0" signal voltage	high-impedance state
"1" signal voltage	24V DC
Data size	4 byte
Supply voltage (system)	5VDC；via data contacts
Current consumption	<100mA
Working voltage	24VDC（-15%～+20%）via power jumper contacts
Isolation	500Vsystem/field Electrical isolation
Reverse protection	Yes
Indicators	32 x LED Green
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Connection data	
Connection technology: inputs / outputs	32 xvia pluggable connector
Connection type 1	Inputs/Outputs
Area of wire	0.2～1.5mm^2/28～16AWG
Strip length	8～9mm/0.31～0.35inches
Mounting type	DIN-35 RAIL
Material Data	
Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Conformity marking	CE
Environmental requirements	
Ambient temperature (operation)	-25～60℃
Surrounding air temperature (storage)	-40～85℃
Protection type	IP20
Pollution degree (5)	2，Per IEC 61131-2
Operating altitude	without temperature derating：0～2000m
Mounting position	Any
Relative humidity (without condensation)	5～95%RH
Vibration resistance	4g，Per IEC 60068-2-6
Shock resistance	15g，Per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2
EMC emission of interference	Per EN 61000-6-3
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible pollutant concentration H2S at a relative humidity < 75%	10ppm
Permissible pollutant concentration SO 2 at a relative humidity < 75%	25ppm

2.Hardware Interface

● **Wiring Terminal**
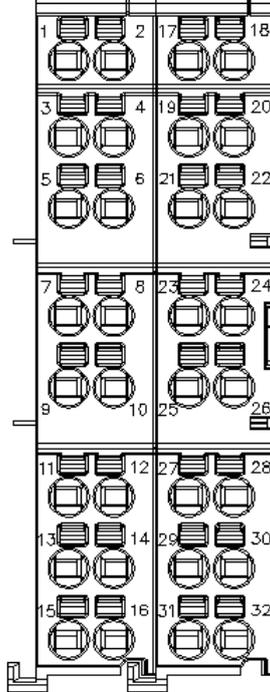
No.				Signal				Description
1	2	17	18	DO 1	DO 2	DO 17	DO 18	
3	4	19	20	DO 3	DO 4	DO 19	DO 20	
5	6	21	22	DO 5	DO 6	DO 21	DO 22	
7	8	23	24	DO 7	DO 8	DO 23	DO 24	High level signal output
9	10	25	26	DO 9	DO 10	DO 25	DO 26	
11	12	27	28	DO 11	DO 12	DO 27	DO 28	
13	14	29	30	DO 13	DO 14	DO 29	DO 30	
15	16	31	32	DO 15	DO 16	DO 31	DO 32	

● **LED Indicator**
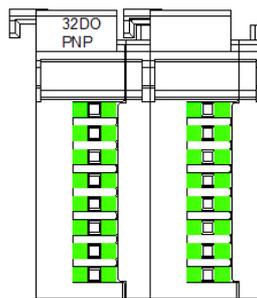
1～32 channel Indicators	Definition
ON	Output signal valid
OFF	Output signal invalid

DEGSON

● **Wiring**
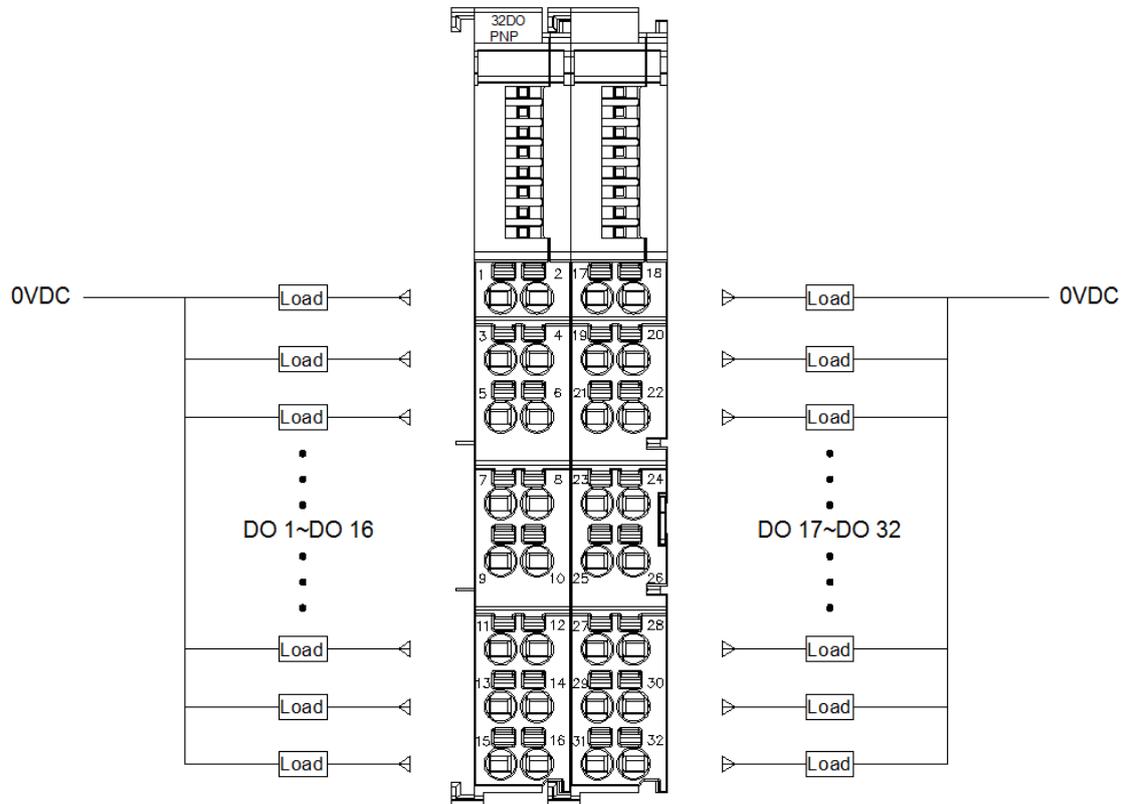
3.Process data definition

DF20-M-32DO-P Module process data definition

Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	Output data							
Byte 0	DO Channel 8	DO Channel 7	DO Channel 6	DO Channel 5	DO Channel 4	DO Channel 3	DO Channel 2	DO Channel 1
Byte 1	DO Channel 16	DO Channel 15	DO Channel 14	DO Channel 13	DO Channel 12	DO Channel 11	DO Channel 10	DO Channel 9
Byte 2	DO Channel 24	DO Channel 23	DO Channel 22	DO Channel 21	DO Channel 20	DO Channel 19	DO Channel 18	DO Channel 17
Byte 3	DO Channel 32	DO Channel 31	DO Channel 30	DO Channel 29	DO Channel 28	DO Channel 27	DO Channel 26	DO Channel 25

Data description:

DO Channel （1~32）：When the bit is 1, the output signal of the corresponding channel is

effective,the output is high level, and the output is invalid when it is 0.

1：Output signal valid　　　0：Output signal invalid

4.Machinery installation

● **Dimension drawing**

The installation size is shown in the following figure (unit: mm):